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## LOWER INDEXED STROKE VOLUME IS INCREMENTALLY ASSOCIATED WITH LONG-TERM MORTALITY FOLLOWING TRANSCATHETER AORTIC VALVE IMPLANTATION

Poster Contributions

Poster Hall B1

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Session Title: Coronary I

Abstract Category: 30. TCT@ACC-i2: Aortic Valve Disease

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**Background:** Traditionally it has been presumed that patients with significant left ventricular dysfunction will also have low trans-aortic flow. Recognizing that it is possible to have a normal trans-aortic flow despite significant left ventricular dysfunction, indexed stroke volume (SVi) has been used to characterize flow state in aortic stenosis. However, little is known about the impact of pre-procedural SVi on the long-term outcome of patients following transcatheter aortic valve implantation (TAVI). We aimed to evaluate the impact of SVi on 3-year all-cause mortality of patients with severe aortic stenosis following TAVI.

**Methods:** Patients with severe and symptomatic aortic stenosis (effective orifice area [EOA]  $\leq 1\text{cm}^2$ ) who were scheduled for TAVI with Corevalve at our institution were prospectively enrolled. Prospectively collected clinical and echocardiographic data were retrospectively analyzed in all patients. Primary clinical end-point was all cause mortality defined according to the criteria proposed by the Valve Academic Research Consortium.

**Results:** We included 137 patients (mean age:  $79.8 \pm 7.0$  years). Ninety-nine (72.3%) patients had normal flow ( $\text{SVi} \geq 35\text{ml/m}^2$ ) and 38 (27.7%) low flow ( $\text{SVi} < 35\text{ml/m}^2$ ). The primary clinical end point occurred in 27 patients (19.7%) during a median follow-up period of 3 years. Mean pre-procedural SVi was lower in patients that reached the primary end-point ( $39.3 \pm 8.3\text{ ml/m}^2$  versus  $46.9 \pm 16.3\text{ ml/m}^2$ ,  $p=0.01$ ). Patients with low flow had higher 3-year all cause mortality compared with those in the normal flow group (36.8% versus 13.1%,  $p<0.01$ ). An inverse relationship was observed between SVi and mortality, with a 5% increase in mortality per every 1  $\text{ml/m}^2$  decrease in SVi ( $p=0.02$ , OR: 0.95, 95% CI: 0.92-0.99).

**Conclusion:** Lower SVi is incrementally associated with increased mortality and an independent predictor of outcome in patients with severe aortic stenosis following TAVI. Based on these findings, SVi should be included in the risk stratification of these patients.